Chapter Two: The RADS Control Panel

Controlling a RADS Session

The first window to appear on your display when you begin a RADS session is the **RADS Control Panel**. The RADS Control Panel allows you to select various types of image windows that display base radar data and associated product data. The RADS Control Panel also allows you to change RADS preferences, and to choose the current volume scan number and sweep number.

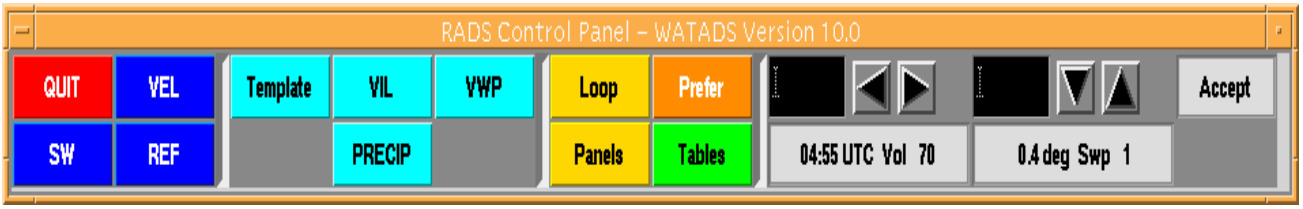

Figure 2.1: The RADS Control Panel

The RADS control panel contains many "buttons" that function much like mechanical buttons — they are "pushed" once to be activated or deactivated. Once the push-buttons are clicked on with the mouse, they stay "depressed," or activated, until pressed a second time and deactivated. Each control panel button is described briefly in this chapter.

Other parts of the Control Panel allow you to enter numeric data to choose a specific volume or sweep number, or they may contain pop-up submenus.

QUIT: Quit Button

The <Quit> button allows you to exit RADS, and closes all RADS windows, including the RADS control panel and all images. The RADS data server process (nxserv) and the RADS display process (nxdisp) are discontinued and removed from memory.

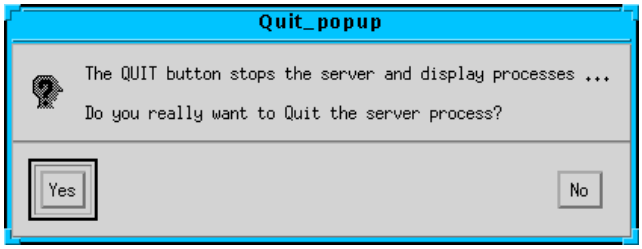

Figure 2.2: The Quit Pop-up Menu

Users are asked to confirm that they wish to quit RADS, and the pop-up menu (Figure 2.2) appears when the Quit button is pressed. If "Yes" is clicked, RADS exits. If the user clicks on "No," the RADS session continues.

IMAGES :

All of the image window buttons on the Control Panel are toggle buttons: they are either activated or deactivated. That is, when a deactivated image button is pressed, the button is activated. If data exist, the associated image window appears for that image (Figure 2.3). If data do not exist for that type of image, a pop-up window will appear informing the user and asking for confirmation. The user then presses an [Acknowledged] button on the pop-up window. If an activated button is pressed, its image window, if it exists, is closed.

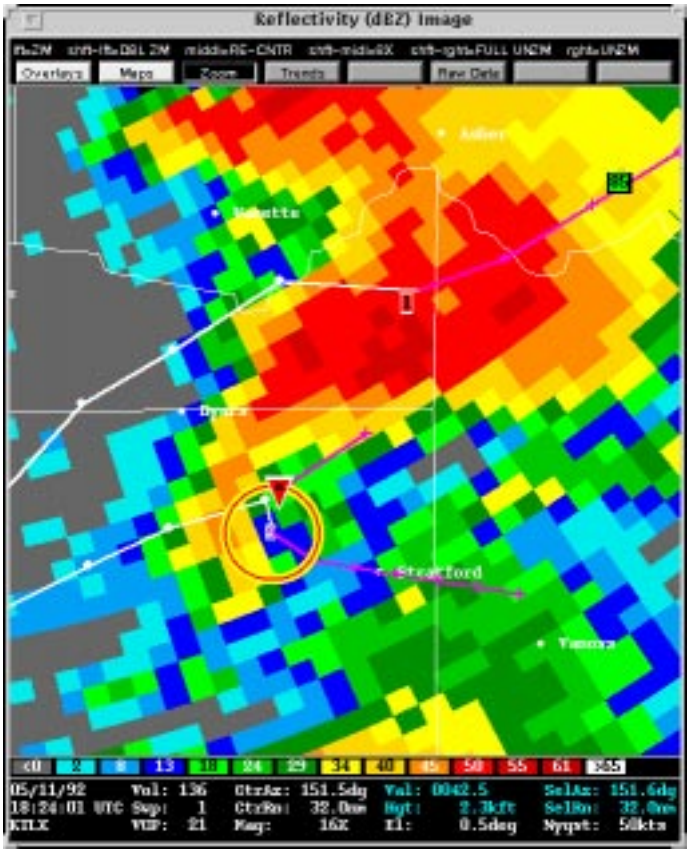

Figure 2.3: An **example** Image Window with Overlay Products

You may open as many images as desired in a RADS session at one time. As images appear on the screen, use your <left-mouse> button on the title bar of the image to drag the image to your desired location. To drag a window, select the title bar, and continue holding the button down until the window is in the desired location.

TYPES OF IMAGE WINDOWS

There are four different types of image windows:

1. **Base data images**, which display reflectivity, radial velocity and spectrum width images;
2. **Derived images**, such as Composite Reflectivity, Precipitation, VIL, or Storm Relative Velocity images. These images are produced by processing base data with meteorological algorithms;
3. **Template (blank) images**, which allow viewing of meteorological algorithm products, maps, etc., on a solid background instead of the base data. This allows for easy viewing of many meteorological algorithm products, such as mesocyclone detections, tornadic detections, etc.; and
4. **Graphic images,** which display special tables, wind profiles, or other graphics.

Each type of image window available from the Control Panel is discussed here and in Chapter 3.

VELOCITY IMAGES

VEL: Velocity Image Menu

VEL This button, when pressed, displays a velocity pop-up menu (Figure 2.4) from which you can choose a Doppler-radar radial velocity image or a storm-relative velocity image of the data on the current volume scan and sweep.

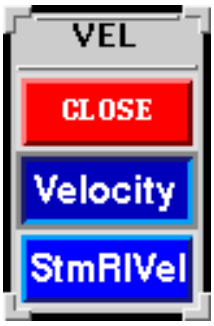

Figure 2.4: The Velocity Image Menu

The Velocity Image Menu is a pop-up menu that remains displayed and activated until you press the CLOSE button.

Velocity: Radial Velocity Image Window

Velocity

The radial velocity image for the current volume scan and sweep is displayed when this button on the Velocity Image Menu is activated. This is a base data image which displays radial velocity toward and away from the radar. These velocities have been dealiased using the WSR-88D Build 10.0 velocity dealiasing algorithm which uses a a sounding as input. Radial velocities toward the radar are indicated in shades of green, while radial velocities measured away from the radar are shown in shades of red. Range-folded data are indicated in shades of magenta, and are indicated on the color bar as "RF."(Figure 2.5) These are default colors. See Appendix D for alternate colors.

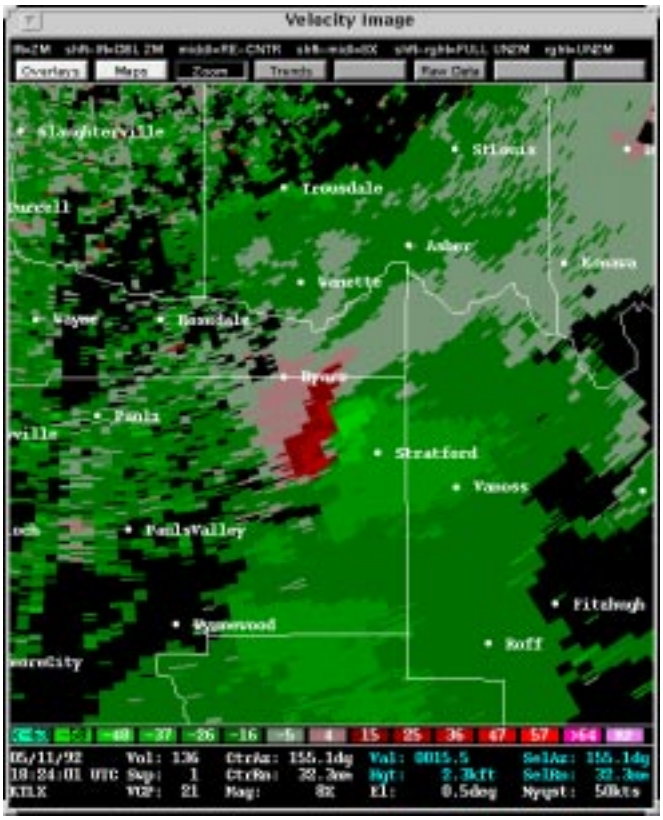

Figure 2.5: Example Radial Velocity Image for a Tornadic Storm

StmRlVel: Storm Relative Velocity Image Window

StmRlVel The derived image window for Storm Relative Velocity is displayed when this button is depressed (activated). See Figure 2.6. By default, the motion vector subtracted from the velocity images will be the average motion vectors of the storm cells as detected by the NSSL SCIT algorithm from the previous volume scan. This default vector is displayed in yellow text for Direction and Speed values on the lower-right of the image. Users may subtract their own vector from the image for enhancement of storm feature signatures using the Storm Motion button on the **Prefer** menu discussed below.

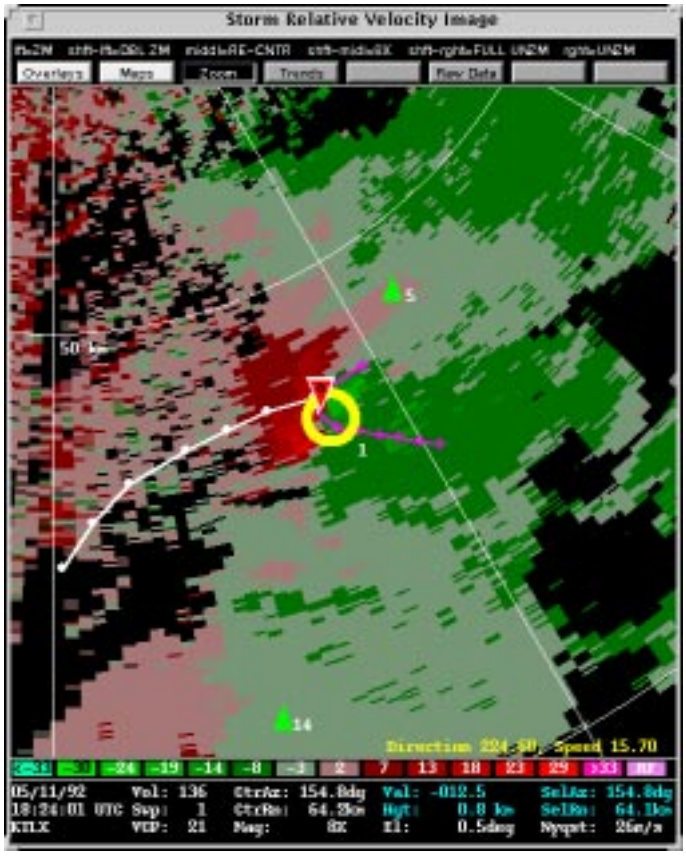

Figure 2.6: An example Storm Relative Velocity Image with Motion Vector Displayed

SPECTRUM WIDTH IMAGES

SW: Spectrum Width Image Window

SW This button, when depressed (activated), displays a base data Doppler radar spectrum width image. An example is shown in Figure 2.7. Spectrum width images are a measure of the variation in Doppler radial velocity at an individual range gate. It is therefore an indicator of possible turbulence and shear regions.

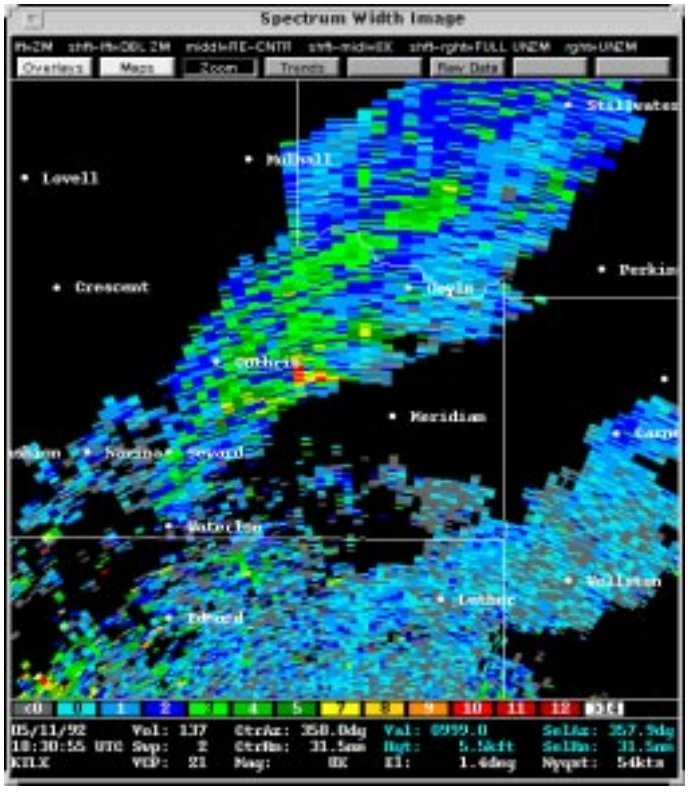

Figure 2.7: An example WSR-88D Spectrum Width Image